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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/973,878	10/11/2001	Hiroto Sumida	20402/0635	7078

7590 01/14/2004  
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EXAMINER

LORENZO, JERRY A

ART UNIT PAPER NUMBER

1734

DATE MAILED: 01/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No. 09/973,878	Applicant(s) SUMIDA ET AL.	
Examiner Jerry A. Lorengo	Art Unit 1734	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 29 October 2003.
- 2a) ☐ This action is **FINAL**.      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-21 and 35 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 and 35 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)      4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 10/29/03      6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

(1)

### ***Election/Restrictions***

Applicant's election without traverse of Group I, claims 1-21, in the paper filed July 23, 2003, is acknowledged. The preliminary amendment filed October 29, 2003 wherein the claims were amended and new claim 35 was added is acknowledged.

(2)

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 11 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term "predetermined" in claim 11 is a relative term which renders the claim indefinite. The term "predetermined" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. It is not understood how "predetermined" limits or effects the gap. The purported function of the gap is disclosed on page 19, lines 20-28 of the applicant's specification but it is not understood how the gap distance is actually predetermined.

(3)

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

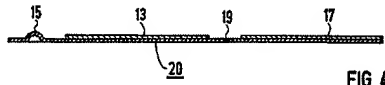
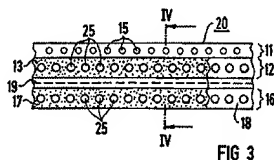
A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 7, 9, 13, 14, 17 and 35 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,643,401 to Schulze-Kahlayss et al.

Regarding applicant claim 1, Schulze-Kahlayss et al. disclose a connecting member used for serially connecting two carrier tapes which comprises (Figures 3-7; column 3, line 27 to column 4, line 45):

- (1) A base film 10;
- (2) A reference band (having a series of knobs) 11 substantially fixed on the base film 10;
- (3) A bonding tape 12,16 adhering on the base film 10; and
- (4) Wherein a straight reference face (interior edge of section 11 shown in Figure 3) is provided on the reference band 11 closely to the bonding tape 12,16. The article of Schulze-Kahlayss et al. is illustrated below:



Regarding applicant claim 2, Schulze-Kahlayss et al. disclose that the base film 10 (as shown above and in Figure 5) is configured in a rectangular shape with the reference band 11 being positioned in parallel with one side of the base film 10.

Regarding applicant claim 7, Schulze-Kahlayss et al. disclose that a plurality of feed-hole marks 25 are provided between the reference band 11 and the bonding tape 16 which are arrayed at predetermined intervals to agree with holes through which the components are fed from the carrier tape to the pick-and-place machine (Figure 3, column 3, lines 36-41).

Regarding applicant claim 9, Schulze-Kahlayss et al. disclose, as shown in Figure 3, that a folding line 19 is provided between two bonding tapes 12,16 and which is parallel to the reference face of the reference band 11.

Regarding applicant claims 13 and 14, Schulze-Kahlayss et al. disclose that the base film 10, the reference band 11 and the bonding tapes 12,16 (as shown above and in Figure 5) have the same size (length) in a longitudinal direction of the reference band 11.

Regarding applicant claim 17, Schulze-Kahlayss et al. disclose that the transverse width of the bonding tapes 12,16 is narrower than the top tape utilized in the construction of the carrier tape. See Figures 1 and 7; column 1, line 5 to column 2, line 24.

Regarding applicant claim 35, Schulze-Kahlayss et al. disclose that a covering film 18 may be provided for covering the bonding tape 12,16 (Figure 5, column 4, lines 5-30).

(4)

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 6, 10, 12, 15, 16 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,643,401 to Schulze-Kahlayss et al.

Although Schulze-Kahlayss et al., as set forth in section (3), above, do not specifically disclose the dimensional relationship and relative orientation of the various components making up the connecting member, as set forth in applicant claims 6, 10, 12, 15, 16 and 18, it would have been obvious to one of ordinary skill in the art at the time of invention to modify such parameters based upon the specific carrier tape being spliced. For example, a carrier tape having relatively deep component wells would require a connecting member with a relatively taller (thicker) reference band as compared to that required to splice a carrier tape having shallower component wells. Likewise, the width of the bonding tapes 12,16 utilized in Schulze-Kahlayss et al. would necessarily vary depending upon the relative width of the carrier tape being spliced with the practicable lengths of bonding tape applied using the connecting member would vary depending upon the physical characteristics of the carrier tape such as thickness, rigidity, and the tension which it undergoes during use in a pick-and-place apparatus.

(4)

Claims 3, 4, 5, 8, 19, 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,643,401 to Schulze-Kahlayss et al. in view of JP 2000-124665 to Sumita et al.

Schulze-Kahlayss et al., as set forth in section (3), above, disclose a connecting member used for serially connecting two carrier tapes which comprises: A base film 10; a reference band 11 substantially fixed on the base film 10; and a bonding tape 12,16 adhered to the base film 10. They do not, however, specifically disclose, as per applicant claim 4, that the base film is transparent or that the reference band, as per applicant claims 3, 5 and 19-21, has a color different from that of the base film

Sumita et al., also drawn to a connecting member used for serially connecting two carrier tapes which comprises a base film; a reference band and a bonding tape adhered to the base film, disclose that it is known to utilize a base film which is transparent and also vary the color of the components relative to the base film, i.e., such, as per applicant claim 19, by using blue-colored adhesive tape (paragraph [0019]).

Although they do not specifically disclose, as per applicant claims 3 and 5, that it is the color of the reference band which is varied relative to the base film, it would have been obvious to modify the invention of to Schulze-Kahlayss et al. to provide a transparent base film and

differently colored components, such as the reference band, thereon motivated by the fact that a transparent base and differently colored reference band would enable easy alignment of the connecting member relative to the carrier tape by the end user.

Although they do not specifically disclose, as per applicant claim 20 and 21, that the bonding tape is semi or fully transparent, it would have been obvious to one of ordinary skill in the art at the time of invention to do so motivated by the fact that carrier tapes often utilize a blister-pack construction wherein the pick-and-place apparatus punches the components from the wells of the carrier tape. As such apparatus often use optical sensors to determine when a component is aligned for removal, the use of a semi or fully transparent tape would avoid occluding the sensors that would further avoid malfunction of component alignment relative to the apparatus.

Although Schulze-Kahlayss et al. do not specifically disclose, as per applicant claim 8, that an edge mark is provided at the longitudinal center of the base film for alignment of the cut face of the carrier tape, it would have been obvious to one of ordinary skill in the art at the time of invention to do so motivated by the fact that Sumita et al. disclose, as shown in Figures 8-10, that an alignment mark is provided at the center of the base film by the cover film 20,21 which is removable in half portions for sequential alignment and placement of the cut carrier tapes 1,2 thereon.

(5)

***Allowable Subject Matter***

Claim 11 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

(6)

***Conclusion***

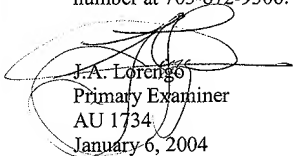
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Such prior art includes references B-K and O cited on Form PTO-892.

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(7)

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jerry A. Lorengo whose telephone number is (571) 272-1233. The examiner can normally be reached on Monday through Friday, 8:30 A.M. to 5:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. Please note that all patent application related correspondence transmitted by FAX must be directed to the central FAX number at 703-872-9306.



J.A. Lorengo  
Primary Examiner  
AU 1734  
January 6, 2004